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<p>(21) International Application Number: PCT/AU98/00203 (22) International Filing Date: 26 March 1998 (26.03.98) (30) Priority Data: PO 6004 3 April 1997 (03.04.97) AU (71) Applicant (for all designated States except US): CAMPBELL, David, Colin [GB/GB]; 1/56 Cadogan Place, London SW1 X9RT (GB). (72) Inventor; and (75) Inventor/Applicant (for US only): CAMPBELL, Kenneth, Charles [AU/AU]; 24 Dean Street, Mount Waverley, VIC 3149 (AU). (74) Agent: GRIFFITH HACK PATENT & TRADE MARK ATTORNEYS; G.P.O. Box 1285K, Melbourne, VIC 3001 (AU).</p>		<p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p>Published With international search report.</p>
<p>(54) Title: A GOLF RECORDS KEEPING SYSTEM</p> <div data-bbox="420 1148 1182 1659" data-label="Diagram"> <pre> graph TD 14[14] --- 12[12 PC] 12 --- 20[20 PRINTER] 12 --- 18[18 SCORE CARD READER] 12 --- 26[26 CARD READER/WRITER] </pre> </div> <p>(57) Abstract</p> <p>A golf records keeping system having an input interface (18, 26) receiving a player carried identification storage medium (24) and receiving a golf score card (2), a computer processing means (12) which processes golf course data and player data, a display means (20) which provides a printed personalized golf score card (2). This golf score card (2) is manually marked by the players during their golf game. At the completion of the golf game the golf score card (2) is read by the input interface (18) and the computer records are updated. The player carried identification storage medium (24) can also be updated with the data for that golf game via the input interface (26). Vice versa the golf club computer (12) can be updated with the data from the player carried identification storage medium (24). The player carried identification storage medium (24) can be swipe card or smartcard, which besides including golfing data can include further data such as for example data enabling electronic funds processing, or medical data.</p>		

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A GOLF RECORDS KEEPING SYSTEM

Field of The Invention

5 The present invention relates to a golf records keeping system using computer processor means for computerised records keeping.

Background of the Invention

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Australian petty patent 666638 is directed to a golf records keeping system and I am noted as inventor in that patent. I have filed a further patent application under international patent application
15 PCT/AU95/00863 (for similar subject matter including improvements over and above the subject matter in Australian petty patent 666638).

The specification and drawings of international
20 patent application PCT/AU95/00863 are set out herein in the attached pages 2 through 14 together with drawing sheets 1 through 7

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A GOLF RECORDS KEEPING SYSTEM

Field of the Invention

The present invention relates to a golf records keeping
5 system using computer processor means for computerised
records keeping.

Background of the Invention

In the game of golf each player is required to maintain a
10 scorecard for the round of golf being played. The score
card should ideally contain details such as the player's
name, his handicap and must include the number of strokes
played for each and every hole played during the round.
After each hole is played the score or number of strokes
15 for that hole is written or otherwise marked upon the
scorecard. At the end of the game the scorecard bearing
the player's name and the number of strokes taken for each
hole and for the entire round is deposited with an
authorised person of the golf club at which the player is a
20 member so that the information appearing on the scorecard
can be processed to maintain or upgrade the records or
statistics of the club and of the player, including the
handicap of the player and to provide other details about
the round of golf, and the player.

25 Presently, details from each individual golf scorecard are
manually entered into a record keeping system that is
manually maintained or manually entered into a computer
system, if such a system is available. Some of the
30 disadvantages of using manual systems are that it is
necessary for an authorised or delegated person to
interpret, collate and read the completed scorecards, some
of which are not written legibly either on purpose or due
to circumstances, and either manually manipulate the
35 information or manually enter the results into the
computer, all of which leads to errors being recorded both
resulting from incorrectly interpreting or reading the

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information in the first place or from incorrectly transcribing the information during entering and recording of the information. In transferring information from an individual scorecard to a master list there is potential
5 for error in transcribing the identity of an individual player and/or in entering the score for a hole or the overall score.

Object and Statement of the Invention

10 It is therefore an object of the present invention to provide a computerised golf records keeping system to overcome one or more of the above problems.

According to one aspect of the present invention there is
15 provided a golf records keeping system using computer processing means which has input interface means and output display means, said computer processing means being under control of a program for system operation,

said system involving:

20 (a) inputting via said input interface means identification data to identify a particular player amongst records in said computer processing means, said records being those of a multitude of players with stored data for each player;

25 (b) in response to inputting in step (a) ascertaining stored data for the identified player and printing from said display means a personalised printed golf score card with the stored data for that player so it can be carried by the player during a round of golf;

30 (c) manually marking the score card with the player's golf strokes per hole during a game of golf;

(d) at completion of the game providing said score card to said input interface means so that the player's golf strokes per hole can be read thereby;

35 (e) updating said stored data with the player's golf strokes, whereby the computer processing means can, when next requested, provide the most recent update for the

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particular player and wherein said printed personalised golf score card has the player's name and handicap printed thereon and wherein for each hole, there is printing defining a unique area on said card for each possible stroke, and wherein marking of the strokes per hole is effected by marking a unique area.

Preferably said stored data includes data of earlier stored data for the particular player so the computer processing means can, when requested, provide an audit of the player's data.

Brief Description of the Drawings

The present invention will now be described by way of example with reference to the accompanying drawings in which:

Figure 1 is a view of the front of one scorecard used in the game of golf in accordance with the system and method of the present invention;

Figure 2 is a block schematic diagram of an example of a hardware configuration of the system;

Figure 3 is a perspective view of a cabinet having a membership card reader, a scorecard printer, and a scorecard reader, and a monitor screen; and

Figures 4 through 7 are flow diagrams showing examples of algorithm steps of the system.

Details Description of Preferred Embodiment

In the example, members of a golf club are provided with a personalised membership card which can be a magnetically coded card or "swipe card" or other card such as a punched card which contains information unique to the individual

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member. When a member wants to play a round of golf, on arriving at the club house or pro-shop or similar, the player or some attendant passes his card through a member card reader which "reads" information about the member and transmits this information to a central processing unit in a computer. The reader can therefore be termed an input interface device.

The reader is linked directly to a central processing unit such as for example in a personal computer or in a mainframe computer located in the club house, in the pro-shop or at some other remote location. The computer can then address records of a multitude of players in records in the memory of the computer. These can be of all club members with unique data stored for each player. After recording details of the member as a player for that day, the computer provides by means of a suitable printer located in the pro-shop a personalised scorecard 2 - see Figure 1 - for the particular member for use in that day's play. The printer can therefore be termed an output display means.

Typically, the information provided on the personalised scorecard 2 for the day's play includes the member's name, date, the individual's membership number and current handicap as determined from the records stored in the computer. This information is typically printed along the top section 4 of the scorecard 2. It is to be noted that any other additional information can be provided in top section 4 of scorecard 2. This could include particular rules for the day of play and/or other information such as "IT'S JOHN DOE'S BIRTHDAY", etc.

After removing the printed scorecard 2 from the printer, it can be placed into a plastics protective cover, folder or similar and the player can attach the plastic folder or cover to golf buggy, such as by way of a cord looped

through the cover, folder or similar. It is to be noted that the cover is provided with an aperture through which the scorecard can be marked to indicate the number of played strokes for each hole.

5

During play the member marks the card for each hole according to the number of strokes taken to play from the tee to the cup for that hole. The number of strokes per hole is recorded on the scorecard by marking the number corresponding to the number of strokes selected from a range of numbers appearing alongside the hole number. In one embodiment each hole has the digits from 1 to 11 located alongside of the number representing the hole so that for example if six strokes were taken for hole 1, the numeral 6 would be marked, such as by pencil line through this digit, or similar. The details relating to the first nine holes of the golf course are provided in the upper main selection 6 of the card 2 whereas details relating to the second nine holes are provided in the lower main selection 8 of card 2. Such marking is of updating data for the holes for that particular player.

On completing the round of golf, the member ensures that there is a number marked for each hole. Spaces for the entire round of golf are provided in section 10 located below the lower main part 8, such as the respective totals for the first nine holes, the second nine holes and the full round. It is optional for the player to complete this section of the score card.

30

After checking that the scorecard has been signed by both the player and a marker in the space provided at the extreme lower part 12 of card 2, the scorecard 2 can then be provided to the input interface device which may include a score card reading device such as, for example, an optical reader/scanner which transfers all of the marked information, or selected information, depending on

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circumstances, on the scorecard 2 to the central processing unit of the computer for recording, retention and subsequent processing, and in readiness for a subsequent round of golf by that individual player. In other words, the score card 2 is read by the input interface means and updating data for that player per hole transferred to the computer.

The input interface reader/scanner device typically includes an optical mark reader or other suitable device, which is able to recognise forms or information in a format similar to that of a form. Commercially available optical readers, optionally containing dedicated software, are available which can be used or modified to read the scorecard. Alternatively, a dedicated scanner/reader can be designed to the task.

The information received by the central processing unit from the reader/scanner includes the member's name, the code number allocated to the member, the date that the round of golf was played and the existing handicap of the player. Such information is stored in a database of player statistics, and other statistics in the memory of the computer. Additionally, the number of strokes taken for each hole will be recorded and the total number of strokes taken for the first nine holes and for the second nine holes respectively will also be recorded. This information will enable the total number of strokes for the 18 holes to be calculated by the computer so that the member's current handicap can be subtracted so as to produce the net score for the round and produce the overall result for that player.

Any other additional information required by the club from time to time can also be provided.

The information accumulated from all previous rounds which

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is stored in the data base as a log of the records can be used to re-handicap the player/member if required. When the member requires to play the next round of golf, a new golf score card is produced in a manner similar to that
5 described previously either with the old handicap or with a new handicap if it has been amended in accordance with the player's statistics compiled from previous rounds of golf. Thus, by using the system the golf score card is used both as the input and as an output of the system.

10

It should be appreciated that the score card may be pre-printed with the details of the round of golf or may be printed by the printer of the output display means on demand when the member introduces his membership card to
15 the input interface means.

Figure 2 shows a block schematic diagram of an example of a hardware configuration of a typical system. Here, there is provided a personal computer 12 which is provided with a
20 touch sensitive monitor screen 14. The personal computer 12 also has a swipe card reader 16, a score card reader 18 and a score card printer 20 connected therewith.

Typically, the PC 12, monitor 14, swipe card reader 16, score card reader 18 and printer 20 are assembled in a
25 cabinet of a type similar to that shown in Figure 3. Here, the cabinet 22 is an upstanding cabinet mounting the touch monitor 14 at an inclined angle in an upper part of the cabinet 22. The swipe card reader 16 is also provided in the upper part of the cabinet 22 as well as a score card
30 reader 18. The printer 20 is provided in a lower portion of the cabinet 22. Typically, the cabinet 22 can be provided in the Pro shop or alternatively at some convenient position to the first hole. Desirably, the cabinet 22 can be provided in a sheltered building so it is
35 not subjected to deterioration through exposure to weather. The cabinet 22 may be positioned at more than one locations at a golf course. For example, it may be provided at the

exit door of the dressing rooms or it may be provided at the entry door of the club house. The exact positions of locating of the cabinet(s) 22 can be decided by individual clubs.

5

As stated previously, the computer 12 is provided with a touch sensitive monitor 14. Appropriate software is provided within the computer 12 to enable appropriate displays and addressing of touch areas on the monitor 14.

10 Thus, on a member approaching the cabinet 22 the monitor screen may be displaying a welcome sign which instructs the member to swipe his membership card through the swipe card reader 16. In the case of a guest, there can be an area on the screen 14 which is to be touched which, in turn, will

15 invoke a keyboard display on the monitor 14. In that way, a guest can input information into the system by touching appropriate key pads which are then displayed. This information may be the guest's name and the guest's official handicap. It may also provide for the guest to

20 indicate his club name so that a connection can be made via a modem arrangement, see Figure 2, where a modem connection can be made via a public service telephone network (PSTN) to the member's club at a remote location. Here, information retained in a computer, such as a personal

25 computer 24, can be obtained and provided back to the PC 12.

Alternatively, a guest may swipe his membership card through the swipe card reader 16 and the swipe card reader

30 16 can extract relevant information from the guest's card to, in turn, activate the modem to make connection with the guest's club and obtain information concerning the guest's handicap from a computer 24 at the guest's club. In this way, the guest will not have to enter details through the

35 touch screen 14 concerning his name and club details.

The particular player's information is then held in the PC

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12 and delivered to the printer 20 to provide a printed score card 2 for the game to be played. This will include the information previously referred to.

- 5 On completion of play, and after signing off of the cards, the marked score cards can be introduced to the score card reader 18 to obtain the game scores as previously explained. The information is then retained in the PC 12 and records for the particular player updated. In the case
10 of a guest, the information can be conveyed via the modem and the PSTN to the member's club so it can update information at the member's club computer concerning any changed handicap.
- 15 Figure 2 shows a PC 26 configured in a network arrangement with PC 12. The PC 26 may be a personal computer or other like computer at the actual club house. The computer 26 may be arranged to provide all the records keeping and updating facilities as well as any logs of historical game
20 plays of the individual members. Thus, a plurality of cabinets 22 with their associated personal computers 12 may be interconnected in the network to connect with the computer 26 in the club house. Thus, a player or member can obtain a card personalised for game play at one
25 location and after game play provide the card to a score card reader 18 at a different location and the information still conveyed to a central area for processing.

Figure 4 shows an algorithm of the process steps involved
30 in generating a personalised score card prior to game play for a member.

Figure 5 shows the algorithm steps concerning the similar process to that in Figure 4 but for a guest.

35 Figure 6 shows the process algorithm steps after completion of game play by a member.

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Figure 7 shows similar algorithm steps to that of Figure 6 but for a guest.

It should be appreciated that instead of providing a
5 printed score card 2 which can be physically marked with a
pencil or pen that an electronic golf score card can be
provided from the printer 20. In this case, the printer 20
is not a physical printer, per-se, but a device which will
discharge, through the printer output slot, an electronic
10 score card device which is pre-programmed with the player's
name and handicap. Thus, the electronic golf score card
can have a LCD type screen thereon on which this
information is displayed. If an electronic golf score card
is provided it will contain a plurality of buttons
15 representing the plurality of events whereby operation of
the buttons provides an indication of the actual number of
strokes taken by a player for each hole. Thus, operation
of the buttons will electronically mark the card. The
marked card can then be returned to an appropriate reader
20 after game play so it can be interrogated to extract the
relevant player's name, handicap and game score
information. The card can then be cleared of information
ready for subsequent use by another player.

25 One modification of the information printed on the
scorecard is if it is contemplated that a four ball
competition or similar be played, then after entering the
name of the member who is about to play the round of golf,
a letter "P", or similar code can be provided to inform the
30 computer that another name is about to be entered so that
the computer waits for the entering of the partner's name
before producing the scorecard.

The touch screen 14 can be used to provide a visual display
35 to the player after his marked score card has been read by
the reader 18 concerning the total strokes for the game
with the handicap applied. This can provide the member or

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player with an automatic calculation of the total score of the game without the need for the player to actually add up the individual strokes and perhaps make errors. It can also announce the particular player's position in a
5 competition at the time when the card is introduced to the score card reader 18. It can also announce messages for the particular player which could not be provided during game play. For example, one message may be to phone the office. Another message may be to phone the wife.

10

The software necessary for implementing the functions outlined above can be readily written by a software programmer without any special inventive input by the programmer. Each of the swipe card reader 16, score card
15 reader 18, printer 20 are common devices which utilise standard software. The programmer merely needs to implement software to interact therewith to provide the desired functions outlined previously. It is considered that knowing the required algorithm steps this software can
20 be readily produced by any person reasonably skilled in the art of producing dedicated software and hence has not been detailed herein.

The advantages of the present invention include the
25 following. In addition to the effort and money being saved by not having to manually record the strokes of each player for each hole on each day of play the information is automatically entered into the computer which results in considerable time and effort being saved as well as being
30 substantially error-free so far as transcription and data entry errors as well as calculation errors are avoided.

One advantage of the present invention arises from the fact that the golf scorecard can be used as both the input and
35 output of the system which simplifies record keeping and reduces the amount of stock of pre-printed dedicated cards that must be maintained at the club house. Also as the

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scorecard to be used on that date is printed on demand as required by the golfer, the exact information required by the golfer including details of the exact competition being played that day and details of any specific rules of play or hazards of pertaining to the course on that day can readily be provided. Additionally, messages or other information from the club to the member or between members can be conveyed by printing on the card as the card is printed for the day's game.

10

In addition, other advantages include as the system of the records a log of accumulations of the performance of each individual at each hole, over time, the individual member will be able to determine if improvement has been achieved at a particular hole.

15

Club management will be able to organise a competition for "champion per hole" for the golf course using the information obtained from all previous golf scorecards being recorded and stored simply by retrieving the information from the central processing unit.

20

Club management has an instant record of exactly who is playing on the golf course on a given day and who has not handed in their completed scorecard after finishing the round of golf by simply requesting the information from the central processing unit.

25

As the details of each scorecard are recorded and stored within the central processing unit there is no longer the need of having to physically store completed scorecards from each round by each member since the computer has an exact record of each member's card in accordance with the information provided by each member for each round of golf.

30

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There is a benefit of being able to provide instant competition results on receipt of the completed scorecards

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and "leader board" style information is continuously available as each member finishes the round and hands-in the completed scorecard. As soon as the last player of each round within a competition hands-in the completed score card the results for the entire day's play by all members is instantly available.

Other advantages include being able to accommodate any change of format to the day's play or day's competition including the type of competition being played for that day and can be readily adapted to provide information relating to non-members such as, for example, on corporate golf days where many players who are not members of the club are invited to compete, and to be able to operate a leader's board for the players even though they may not be members.

Another advantage is that the players after passing their score cards through the reader can retain their score cards since the computer retains all of the information and there is no requirement for the club to retain the score cards for record keeping or any other reason.

The described arrangement has been advanced by explanation and many modifications may be made without departing from the spirit and scope of the invention which includes every novel feature and novel combination of features hereindisclosed.

Those skilled in the art will appreciate that the invention described herein is susceptible to variations and modifications other than those specifically described. It is understood that the invention includes all such variations and modifications which fall within the spirit and scope.

- 15 -

The inventive concept in the aforementioned specification is directed to a system where computer processing means is able to check records of a multitude of players with stored data for each player. The
5 aforementioned system is particularly suitable for use at individual golf clubs. The aforementioned specification makes reference to providing electronic interconnection with a members home club if the member is playing on an away from home course. Thus, in that
10 event, the system has the ability to make a telephone call or other call to the members home club to electronically extract particular details of the member such as the members handicap so that a personalised scorecard can be provided at the away from home club.

15

It has been realised that the cost of making telephone or other calls to a members home club when the member is playing away from home is troublesome for the member and also expensive. The expense becomes a real
20 issue if the player is playing away from home in a foreign country.

Object and Statement of the Invention

25

It is therefore an object of the present invention to attempt to address the problem of the troublesome nature for the member when playing away from home and also to address the cost issue associated with making a telephone call or other call to the members
30 home club to extract handicap details or other details.

It has been determined that the above problem can be addressed by providing each player/member with a

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player carried data storage medium, such as a
"smartcard" or a magnetic swipe card or the like storage
medium wherein the relevant player information can be
recorded. In that event, the player can merely present
5 his carried data storage medium to the computer system
at the away from home club, and the players particulars
including the players handicap can be read from the
player carried data storage medium so that the
personalised game scorecard can be printed.

10

Therefore, according to one aspect of the
present invention there is provided a golf records
keeping system using computer processing means which has
input interface means and output display means, said
15 computer processing means being under control of a
program for system operation, said system involving:

- (a). inputting via said input interface means
identification data from a player carried
20 data storage medium to identify the
particular player and the players current
handicap
- (b). in response to inputting at step (a).
printing from said display means a
25 personalised printed golf scorecard from
the stored data from the player carried
data storage medium and from local course
data stored by said system so it can be
carried by the player during a round of
30 golf,
- (c). manually marking the scorecard with the
players golf strokes per hole during a
game of golf,

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- (d). at completion of the game providing said scorecard to said input interface means so that the players golf strokes per hole can be read thereby;
- 5 (e). also providing to said input interface means said player carried data medium so that it can be updated with data for that game.

10 By using a system of this type, the player/member carries information concerning his name and other personal particulars including his last recorded handicap. After playing, the golf strokes for that particular game can be recorded on the player

15 carried medium and these can be extracted from the player carried medium when the player returns to his home club. In this way, there is no need for the away from home club to make a dedicated telephone call to the members home club to obtain handicap information. This

20 avoids the frustration of the member having to wait until that call is made and it also avoids the expense of that call for the away from home club to make the call.

25 Typically, the player carried data storage medium comprises a "smartcard".

Brief Description of Drawings

30 In order that the invention can be more clearly ascertained an example of a preferred embodiment will now be described with reference to the accompanying drawings wherein:-

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Figure 8 shows a perspective view of a known "smartcard".

Figure 9 shows a cabinet similar to that in
5 Figure 3 of the aforementioned international patent application for the present example.

Figure 10 is a schematic diagram similar to that
of Figure 2 of the aforementioned specification, showing
10 the modified system according to the present example.

Detailed description of preferred embodiment

The system is substantially identical to that in
15 the aforementioned international patent application and therefore details will not be re-described.

The player carried data storage medium is preferably a known "smartcard" 24 such as of the type
20 shown in Figure 8. The "smartcard" 24 can be an electrical contact type "smartcard" or the more recently developed optical "smartcard" device. Any convenient form of data storage medium may be implemented such as a floppy disk, however, it is particularly preferred that
25 the player carried data storage medium be a "smartcard".

The player carried storage medium 24, can be used to input data into the system. Typically, this occurs by inserting the "smartcard" into a "smartcard"
30 reader/writer 26 on the cabinet 22. In this case, the cabinet 22 is basically identical to that in the embodiment of Figure 3 of the aforementioned international patent application except that it does not

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include the swipecard reader 16 and has instead, the "smartcard" reader/writer 26.

5 The electrical circuit diagram of the system is shown in block schematic form in Figure 10 and is basically the same as that in Figure 2 of the aforementioned international patent application except that the "smartcard" reader/writer 26 is provided instead of the swipecard reader 16.

10

Accordingly, members at a particular club will each be provided with their own unique "smartcard" 24. The system will record data onto the "smartcard" 24 for each respective player via the card reader/writer 26.

15 Thus, a member/player will always carry the most recent update information on the "smartcard" 24. Thus, when a player visits an away from home club all the relevant information can be extracted from the "smartcard". Typically, this information can comprise data relating

20 to the individual players name, his latest handicap and other historical information such as details of previous games played. The "smartcard" may also contain information concerning the players home club such as its name, phone, fax, E-Mail address and like information.

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It may also include other important information such as medical information, including illness and disabilities, allergy medications and current medications and the like. It may also include medical

30 practitioners contact details in the event it is necessary to make an emergency call to a treating medical practitioner.

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On intention to play at a club be it the members home club or an away from home club, the "smartcard" 24 is inserted in the "smartcard" reader/writer 26 at that club or course and the relevant player information

5 extracted therefrom so that a personalised scorecard can be printed from the printer 20 at that club or course. The scorecard will be printed with the same data and layout as the scorecard described in relation to Figure 1 in the aforementioned international patent

10 application. The players handicap will be similarly printed from the information stored on the "smartcard" 24. Thus, in the case where the player is playing at the home club the information on the "smartcard" may be checked with the historical data in the database

15 relating to the multitude of players with stored data for each player. If a discrepancy is found in the information then it can be assumed that (a) the player has previously played on an away from home course and, in which case, details of that previous game or those

20 many previous games in the away from home courses can be extracted from the "smartcard", and the players handicap appropriately adjusted. b) there has been fraudulent attempt to corrupt the data in the "smartcard" 24. For the purposes of this patent specification this latter

25 aspect will be ignored. Thus, a game scorecard is printed by the printer 20 bearing the very latest information relating to the particular player. The electronic processing can occur relatively quickly such that the player does not perceive any substantial time

30 delay between insertion of the "smartcard" 24 into the "smartcard" reader/writer 26 and the production of the game scorecard from the printer 20. The screen 14 can be used to display messages similar to that described in

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relation to the embodiment in the aforesaid international patent application and may also invoke a "touch" keyboard on the screen whereby the player can input PIN numbers or the like to verify correct and
5 authorised use of the "smartcard".

During game play the scorecard is then marked in the same manner as that described in the aforementioned international patent application and on completion of
10 play is inserted into the scorecard reader 18. Details of the game played can then be extracted together with the members handicap. This information can be used for entering details regarding competition play at that particular course. In the case where the member is
15 playing at the home club, the information can be transmitted to the main database and used to update the records for that player in the database and recalculation of a handicap if necessary. The handicap information can then be mirrored to the "smartcard" 24
20 from the "smartcard" reader/writer 26 at a later time when the card is next inserted in the reader/writer 26. Thus, the screen 14 may be provided with a message which requires the member/player to re-insert their "smartcard" 24 into the reader/writer 26 when the
25 scorecard is provided into the scorecard reader 18. Thus, the updated information can be transferred to the "smartcard" 24 for subsequent use either at the members home club or at an away from home club. In the case where the member is playing on an away from home club
30 course then the information concerning the players strokes and the par strokes for each hole can be inputted into the "smartcard" 24 and other information relating to match play such as "calculated course

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rating" for the day, so that when the member returns to his home club the members handicap can be appropriately adjusted in the records at the home club. This will require re-insertion of the "smartcard" into the reader/writer 26 after completion of competition play by all players in the field on that day to ensure that correct "weighting" information for the course by the "calculated course rating" on that day are available. This, in turn, will allow for correct handicap adjustment, if necessary.

In a variation of the above if sufficient data is stored on the "smartcard" 24 concerning previous game plays and the individual par strokes per hole of the games played and other information related to the conditions of the course on the day of play such as "calculated course rating", then the members handicap may be able to be adjusted even at an away from home club and recorded onto the "smartcard" 24. Thus, when the member returns to the home club and inserts the "smartcard" into the "smartcard" reader/writer 26 the records at the home club can be updated with the new handicap.

It should be appreciated that the above system provides for enhanced operation of a golf records keeping system relative to that described in the aforementioned international patent application. The described system results in relatively quick printing of a scorecard for game play at the players home club and also at an away from home club. There is no need for an away from home club to make calls to the players home club to extract details of the players handicap. It also avoids the possibility of players advising of

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cheating by manually or aurally stating incorrect handicaps to gain a competitive edge when they play at away from home clubs.

5 Modifications may be made to the invention as would be apparent to persons skilled in the electronic/computer arts and/or in the arts relating to golf score management for example, because a "smartcard" is utilised there is the possibility of incorporating
10 financial transactions using the intelligence in the "smartcard" to control credit usage. For example, at a home club, a member may purchase in advance, particular monetary values of credit for use at the club and club rooms and this can be stored by the "smartcard". By
15 insertion of the card into the card reader/writer 26 or into a further card reader at the club house, then the credit on the card can be used to pay for purchases at the club such as food or drinks. The remaining credit can then be recorded by the "smartcard". A system of
20 this type has advantage as the club then will have use of the member/players money in advance and precise control of credit achieved by use of the "smartcard".

 In a further modification of credit usage, banks
25 may be able to co-operate with clubs to provide credit facilities. Thus, a member may have access to credit through a bank via the "smartcard". Presenting the "smartcard" at an away from home course, or indeed a home course, may provide access to funds to pay for
30 purchases similar to that with known credit cards such as VISA.

 These and other modifications may be made without departing from the ambit of the invention the

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nature of which is to be determined from the foregoing description.

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CLAIMS

1. A golf records keeping system using computer processing means which has input interface means and output display means, said computer processing means
5 being under control of a program for system operation, said system involving:

- 10 (a). inputting via said input interface means identification data from a player carried data storage medium to identify the particular player and the players current handicap
- 15 (b). in response to inputting at step (a). printing from said display means a personalised printed golf scorecard from the stored data from the player carried data storage medium and from local course data stored by said system so it can be carried by the player during a round of golf,
- 20 (c). manually marking the scorecard with the players golf strokes per hole during a game of golf,
- 25 (d). at completion of the game providing said scorecard to said input interface means so that the players golf strokes per hole can be read thereby;
- 30 (e). also providing to said input interface means said player carried data medium so that it can be updated with data for that game.

2. A golf records keeping system as claimed in claim 1 wherein the data storage medium is a smartcard.

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3. A golf records keeping system as claimed in claim 1 wherein the system is at a members home club, and wherein inputting at step (a) invokes a response to check data of a players handicap obtained from the storage medium against handicap data stored for that player, and updating the stored handicap with any changed handicap.
4. A golf records keeping system as claimed in claim 2 wherein the software is configured to provide electronic funds processing, and wherein the smartcard is useable with the system to make purchases of goods or services.
5. A golf records keeping system as claimed in claim 1 wherein the storage medium contains medical data relating to the player.
6. A golf records keeping system as claimed in claim 1 wherein the data for that game at step (e) include data of the players strokes per hole.

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MEMBER :		Date _____		M'SHIP CODE																
PARTNER :		H'cap _____																		
		H'cap _____																		
Hole	M'TRS	PAR	MATCH PAR S'FORD	PLAYER										+ - O	MARKER					
				1	2	3	4	5	6	7	8	9	0	1		I N T	S T R O V E	+ - O	I N T	
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
OUT																				
10																				
11																				
12																				
13																				
14																				
15																				
16																				
17																				
18																				
IN																				
OUT																				
TOTAL																				
DEDUCT H'CAP																				
NETT SCORE																				
Signatures															RESULT					
PLAYER _____																				
MARKER _____																				
Home Club _____																				

FIGURE 1

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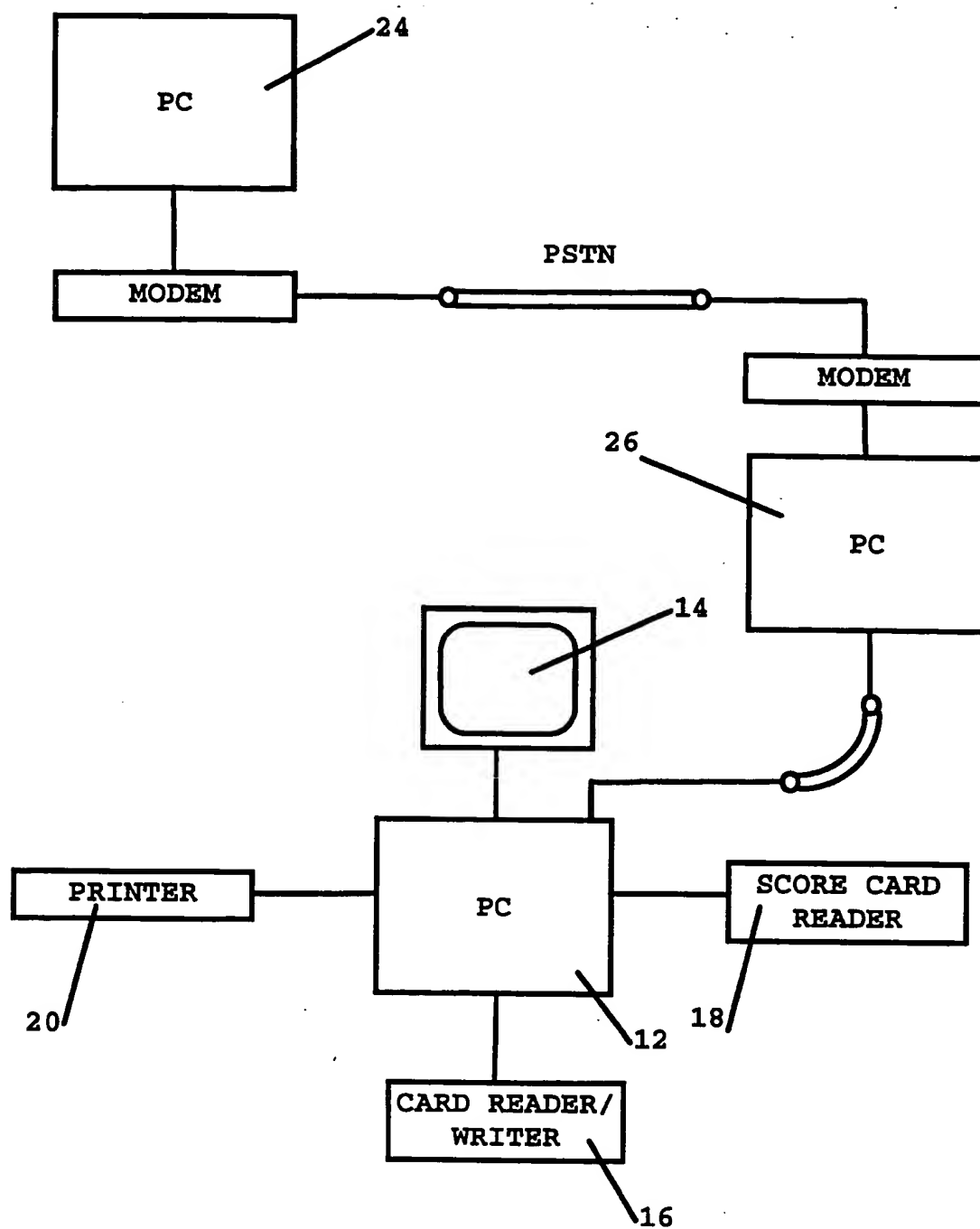


FIGURE 2

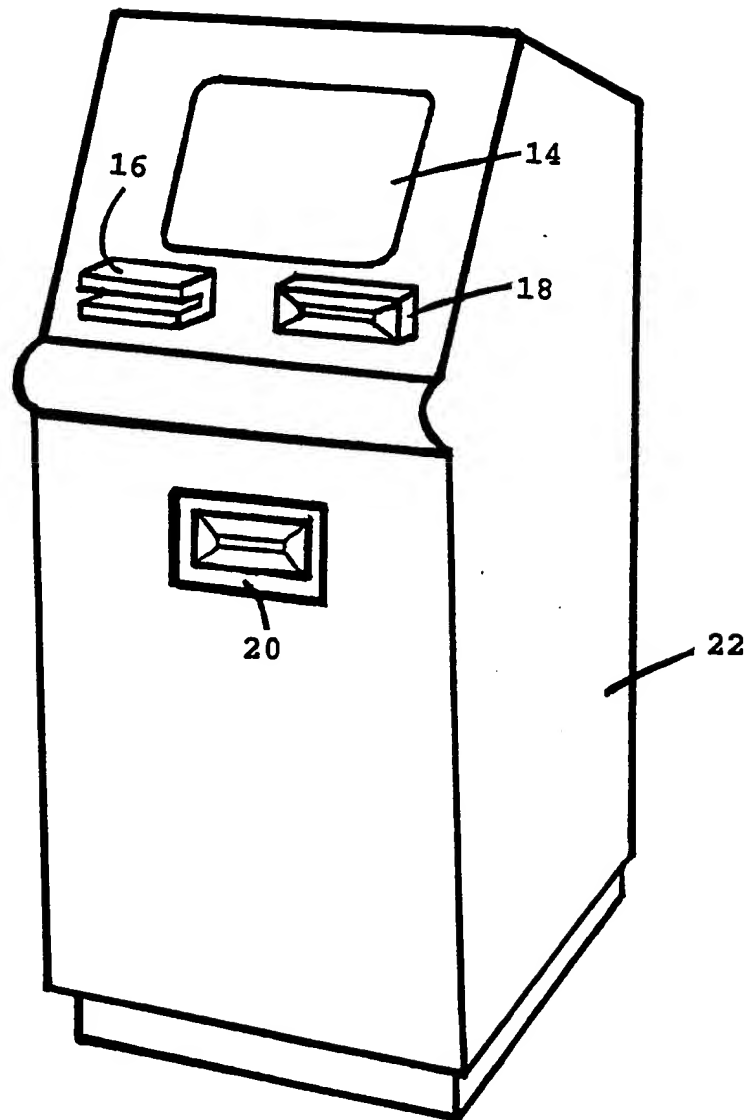


FIGURE 3

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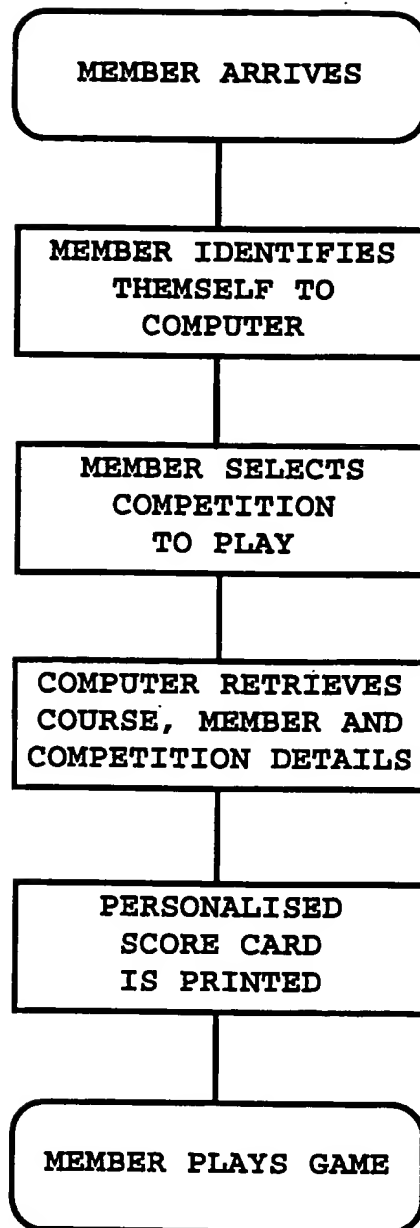


FIGURE 4

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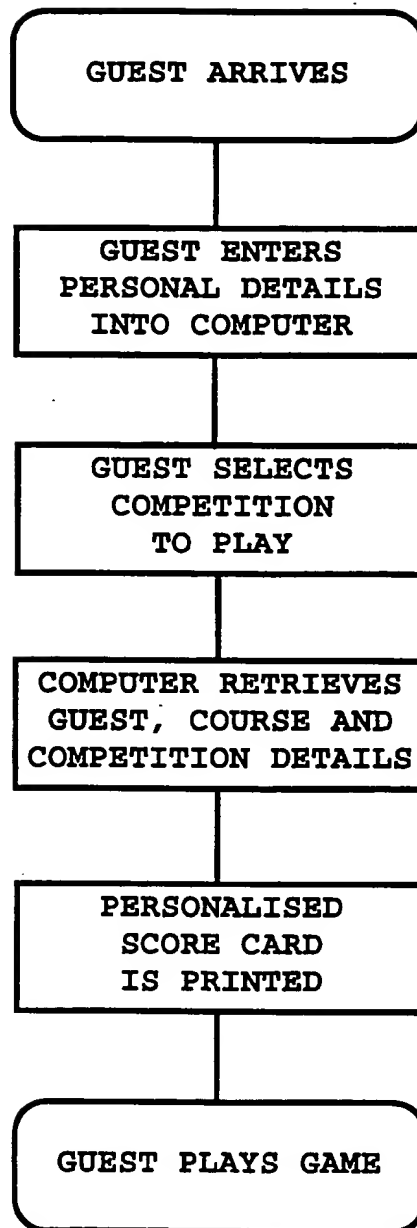


FIGURE 5

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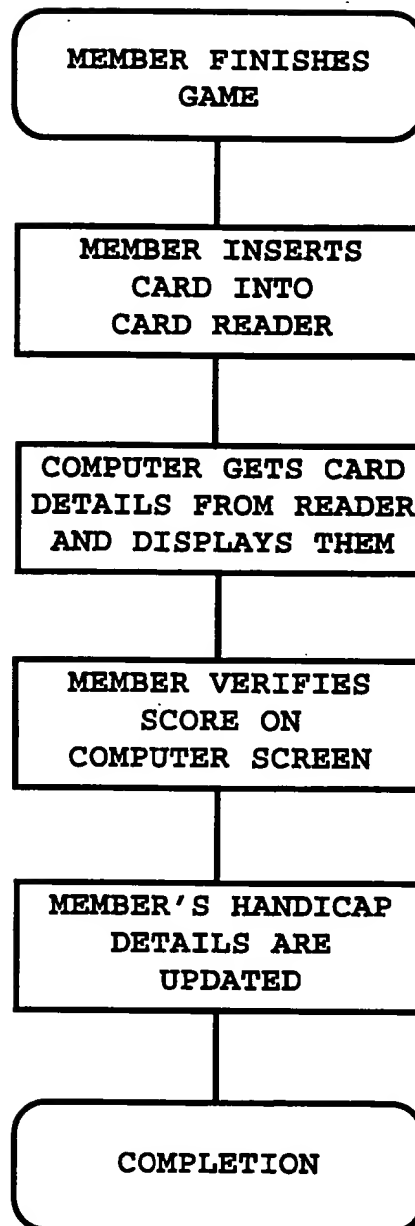


FIGURE 6

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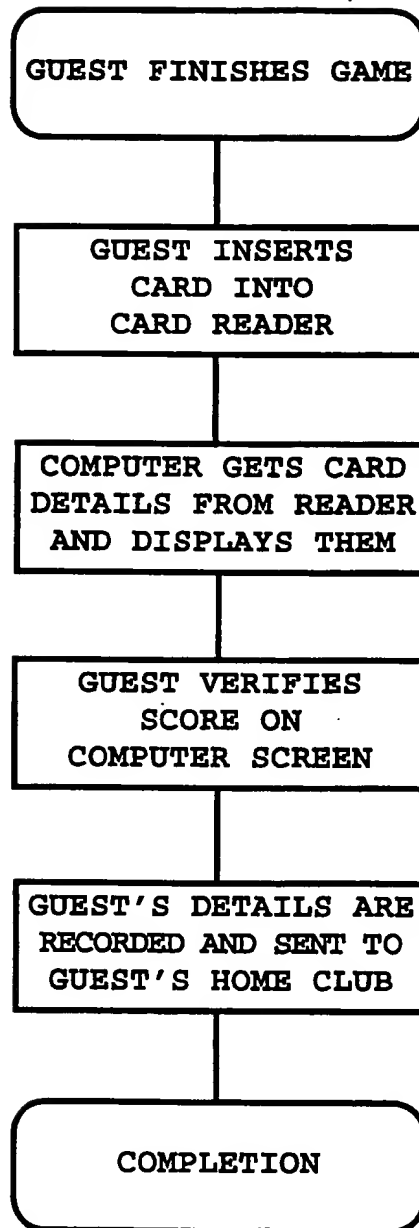


FIGURE 7

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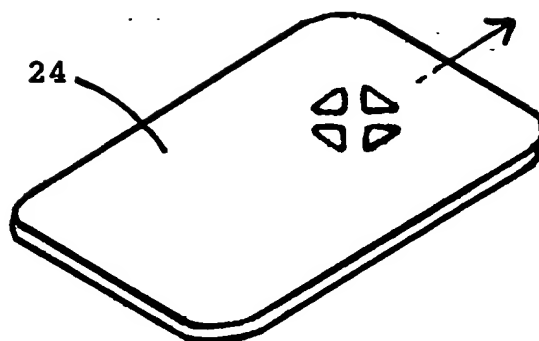


FIGURE 8

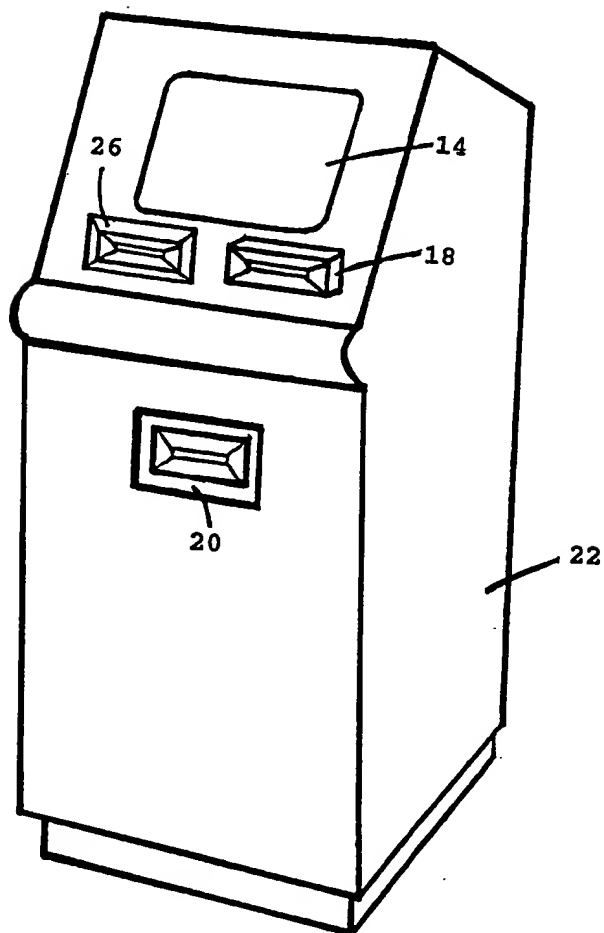


FIGURE 9

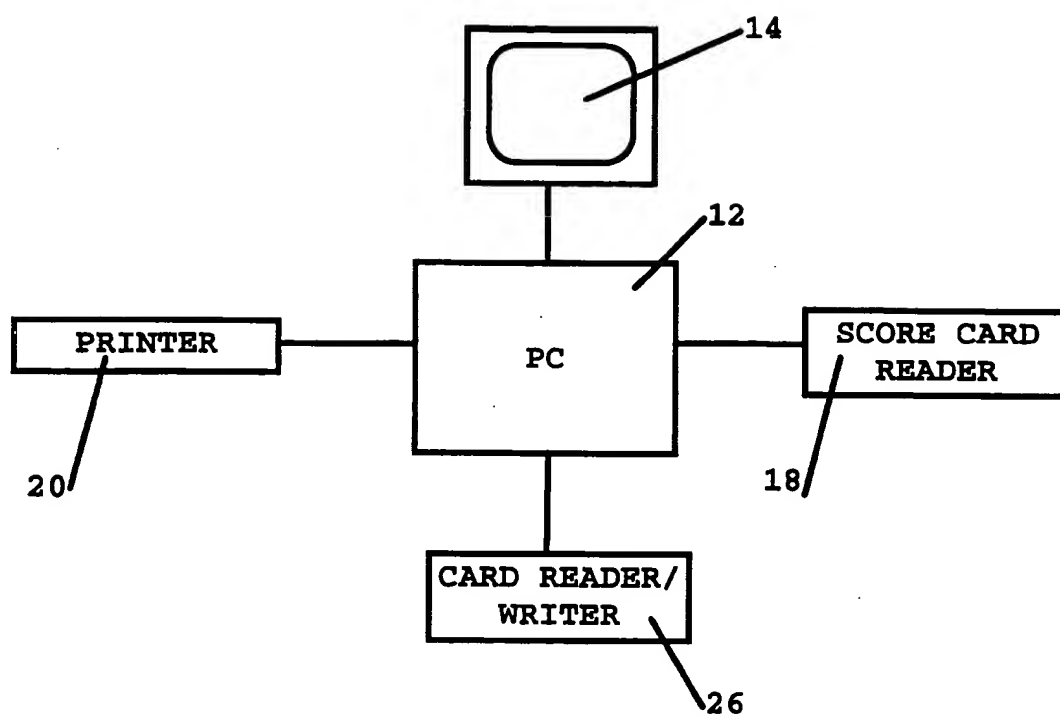


FIGURE 10

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/AU 98/00203

A. CLASSIFICATION OF SUBJECT MATTER																						
Int Cl ⁶ : A63B 57/00, 71/02, G06F 161:00, G06K 19/07																						
According to International Patent Classification (IPC) or to both national classification and IPC																						
B. FIELDS SEARCHED																						
Minimum documentation searched (classification system followed by classification symbols) IPC: A63B 57/00, 71/02, G06F 161:00, G06K 19/07																						
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched																						
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WPAT																						
C. DOCUMENTS CONSIDERED TO BE RELEVANT																						
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.																				
Y	US 5319548 A (GERMAN) 7 June 1994. Abstract Column 6 line 20 to column 7 line 4 Column 7 lines 22/54 Column 7 line 62 to column 8 line 14 Column 11 lines 3/33	1-6																				
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex																						
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A"</td> <td>document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T"</td> <td>later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E"</td> <td>earlier document but published on or after the international filing date</td> <td>"X"</td> <td>document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L"</td> <td>document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y"</td> <td>document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O"</td> <td>document referring to an oral disclosure, use, exhibition or other means</td> <td>"&"</td> <td>document member of the same patent family</td> </tr> <tr> <td>"P"</td> <td>document published prior to the international filing date but later than the priority date claimed</td> <td></td> <td></td> </tr> </table>			"A"	document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E"	earlier document but published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family	"P"	document published prior to the international filing date but later than the priority date claimed		
"A"	document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention																			
"E"	earlier document but published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone																			
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art																			
"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family																			
"P"	document published prior to the international filing date but later than the priority date claimed																					
Date of the actual completion of the international search 8 May 1998		Date of mailing of the international search report 22 May 1998																				
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200 WODEN ACT 2606 AUSTRALIA Facsimile No.: (02) 6285 3929		Authorized officer R STOPFORD Telephone No.: (02) 6283 2177																				

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/AU 98/00203

C (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5127044 A (BENITO et al) 30 June 1992 Abstract Column 4 lines 31/59 Column 5 line 60 to column 6 line 13 Column 7 lines 13/29 Claim 12	1-6
Y	US 4319131 A (McGEARY et al) 9 March 1982 Column 1 lines 48/62 Column 2 line 51 to column 3 line 4 Column 4 lines 37/54	1-6
Y	WO 97/02873 A1 (HARALD WERGELAND) 30 January 1997 Abstract Page 5 lines 24/33 Page 7 lines 14/22 Page 12 lines 3/6 Claim 28	1-6
P, Y	AU 43224/96 A1 (KENNETH CHARLES CAMPBELL) 14 July 1997 Whole document	1-6
Y	AU 39170/95 (DUNCAN ROSS CAMPBELL) 22 February 1996 Whole document Abstract Page 4 lines 6/35 Page 5 lines 17/26	1-6
X	AU 30445/95 A1 (LAURIE DENNIS PETERS) 14 March 1996 Whole document Page 2 line 31 to page 6 line 8 Page 8 lines 8/12 Page 12 lines 9/15	1-6
Y	AU 666638 B3 (70218/94) (DUNCAN ROSS CAMPBELL) 15 February 1996 Whole document	1-6

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No.
PCT/AU 98/00203

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member					
US	4319131	US	4268744				
WO	9702873	AU	65354/96	NO	952730	NO	980061
AU	43224/96	WO	9722388				
US	5319548						
US	5127044						
AU	39170/95						
AU	30445/95						
AU	666638						